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Teaching Tactical Decision Making: What is Important?

A Monograph
by

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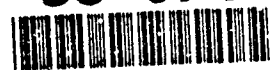
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ABSTRACT

TEACHING TACTICAL DECISION MAKING: WHAT IS IMPORTANT? BY
MAJOR TIMOTHY D. LIVSEY, 53 PAGES.

This monograph determines if the Command and General Staff College (CGSC) is educating officers as tactical decision makers who can think. It establishes a framework for what is important for tactical decision making. The four elements of the framework include the principles of war, tactical decision making, building experience and mental agility. This framework is developed from researching current Army doctrine and military theory to demonstrate their contemporary relevance to tactical decision making.

After establishing the current and historical significance of these elements to tactical decision making, they are used as criteria to evaluate the core tactics program of instruction (POI) at CGSC. The assessment is derived from data obtained from interviews with the faculty and staff, from the Center for Army Tactics (CTAC), and a review of CGSC students issue material from the core tactics POI. This data is compared against the research from the framework to determine if CGSC is teaching what is important to tactical decision making.

This monograph concludes that the principles of war, tactical decision making, building experience and mental agility are prominent aspects of tactical decision making. They are essential for officers that must think about the diverse challenges facing the Army. The assessment of the core tactics POI concludes that these four essential aspects of tactical decision making are not integrated in the core tactics POI taught at CGSC.

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INTRODUCTION

The Army is changing and adapting in response to the end of the Cold War. General Gordon R. Sullivan, Chief of Staff of the U.S. Army discusses the implications of these changes on Army doctrine in his article "Doctrine A Guide to the Future". General Sullivan reviews the world environment that requires updating Army doctrine. A new military strategy, changing threats and technological innovation are reasons General Sullivan cites for revising Army doctrine. Despite a changing world, General Sullivan states the Army is not creating a new doctrine. He describes an evolving doctrine based on lessons learned from recent Army operations in Panama and the Persian Gulf. The new doctrine will span the entire continuum of military operations. This includes domestic operations like disaster relief to fighting conventional conflicts.¹ A changing world and changing doctrine pose new challenges for the Army.

One of the challenges for the Army is determining the impact of these changes on officer development programs. Brigadier General William M. Steele, Deputy Commandant of the U.S. Army Command and General Staff College, discusses the impact of these changes on the Army leader development programs in his article "Army Leaders: How You Build Them; How You Grow Them". At the end of his article BG Steele leaves readers with some

questions to ponder regarding the skills required for future officers. One of his questions regards teaching intuitive skills, tolerance of ambiguity, 'what if' reasoning and visionary thinking. These skills are important and allow officers to think and adapt to the diverse challenges in the future and apply the revised Army doctrine. BG Steele concludes his article by encouraging input on how to improve officer development in the post Cold War environment.¹

This monograph investigates one aspect of officer development related to BG Steele's question--tactical decision making. The four different elements necessary to tactical decision making discussed in this monograph are the principles of war, the tactical decision making process, building experience and mental agility. Each area is discussed by researching past and contemporary military thought. The results of this investigation demonstrate the importance and contemporary relevance of each area to tactical decision making. These four areas become criteria that are used to assess the current core tactics program of instruction (hereafter POI) at the Command and General Staff College (hereafter CGSC). This assessment establishes that these four areas are considered important to teach tactical decision making to Army officers at CGSC.

THE PRINCIPLES OF WAR

The Army keystone doctrine in FM 100-5, Operations is changing for the third time since 1976. Some professional military officers such as A. J. Bacevich, author of The Pentomic Era, criticize the Army for continuously redefining the way they conduct war.³ However, a changing world has caused a shift of U.S. military strategy from a forward defense to counter major threats, to force projection to counter unknown threats in many different regions. These major changes justify rewriting the Army's keystone doctrine. For officers with between ten and fifteen years of service, this is the third time Army doctrine has redefined its approach to fighting. In order to assimilate and apply doctrinal changes easily, the principles of war remain a historically consistent means to think about war.

The principles of war have the historical base to serve as the foundation of the Army's keystone doctrine. Moreover, they are a lens to focus our understanding of the past, current, and future changes to key Army doctrine. In his chapter "On the Theory of War", Clausewitz describes the need to put history in order as it became more plentiful and complicated.⁴ Military theory provided that order as an investigative process that distills the important and essential from history.⁵

Military theory sharpens the lens for studying

history. Mao Tse-Tung said, "all military laws and theories which are in the nature of principles are the experience of the past wars summed up by people in former or in our own time."⁶ Theory organizes facts from history to deduce principles which can serve as a basis for methods to meet different situations.⁷ Once deduced, these principles and methods reflect a condensed expression of {an armies} approach to fighting. This approach to fighting is the basis for doctrine. The principles of war and doctrine represent the end product of the theoretical investigation of history.⁸

The process of distilling history to form an expression of how to fight did not come easily. At one time literature was in short supply about the art and science of war. In the eighteenth century, Marshall de Saxe complained of "the darkness which shrouds the study of military art" due to a lack of good books.⁹ In 1934, Major E.S. Johnston, author of "A Science for War" encouraged officers to peruse the campaigns of Alexander, Hannibal, Caesar, Gustavus Adolphus and many other great captains to learn the art of war.¹⁰

A problem for officers today is determining what history to read. Michael Howard, a contemporary historian, and Clausewitz both agree to study history in width.¹¹ This allows the reader to see change and find the similarities and differences from the great captains

over time. This is a worthy task for all officers, considering the current information age where the amount of information available doubles every five years.¹² Martin Van Creveld comments, in The Training of Officers, that the invention of the printing press in 1453 gave rise to military literature.¹³ Today, computers and xerox machines, along with the printing press, continue to increase the amount of history and information officers need to read to attain a broad education.

Finding history to read is easy for officers today, finding the time is not. In the Evolution of Modern Warfare, Christopher Bellamy acknowledged this and maintained that due to the increased requirements for officers today, there is little time to devote to in-depth historical study.¹⁴ Professional historians Michael Howard and Martin Van Creveld also echo this fact. Howard says running an Army can become so consuming, that studying and thinking about using that Army gets neglected.¹⁵ Van Creveld cites Army requirements for masters degrees as a reason officers have less time to spend studying history and the profession of arms.¹⁶

Military officers do not need to be historians or theorists to apply the lessons from history. The principles of war can provide a focus given the amount of history and the time officers have available. Jomini

states i not a requirement for officers to be men of "vast erudition", referring to reading history. Regardless of how much knowledge a officer has, or how much history they read, they need grounding in the principles that are the foundation of the art of war.¹⁷

Although Army doctrine changes and history continues to be written, the foundations of the Army doctrine, embodied in the principles of war, are timeless. The principles of war can aid officers attempting to understand doctrine. As Jomini argued, "the principles {of war} are the same under the Scipios and Caesars, Frederick and Napoleon."¹⁸ The Army agreed with Jomini and adopted the principles of war from J.F.C. Fuller in 1921. The original nine principles of war included in Training Regulation 10-5 were: objective, offensive, mass, economy of force, movement, surprise, security, simplicity and cooperation.¹⁹ The 1986 version of FM 100-5 included these nine principles of war, but unity of command replaced cooperation.²⁰ The principles included in the current draft of FM 100-5 remain unchanged from the 1986 version.²¹ Although the explanation of each principle evolved, the principles themselves remained fairly constant. When compared to the contextual changes in FM 100-5, the principles of war remain a stable foundation for Army doctrine. As a product of military theory, the principles of war endure over time,

despite changes to how the Army fights.

Joint doctrine also uses the principles of war. JCS Publication 1 ties the principles of war to joint and coalition operations across the spectrum of conflict. It says, "These principles deserve careful study by all who practice the military art, because the insights suggested by their analysis span the entire range of military operations."²² Regardless of the type of war, once clashes occur on any scale the principles of war apply.²³

The principles of war are derived from traditional Army missions, however, use of the Army is expanding to other areas. JCS Publication 3, Doctrine for Unified and Joint Operations, confirms the principles of war apply to all levels of war and are relevant during peacetime competition.²⁴ The current draft of FM 100-5 now includes operations other than war. These type of operations are a departure from the traditional focus on warfighting operations in FM 100-5. They are not new operations to the military, and are appropriately included in the current draft. Operations other than war include: peacekeeping, nation assistance, civil disturbances, anti-drug operations, disaster relief and others.²⁵ Christopher Bellamy may have predicted this change in military roles when he said, "military men are good at solving large-scale, complicated problems."²⁶

Although these are not new Army missions, there is a lack of in-depth conceptual analysis of past operations.

However, some trends from recent operations other than war support the principles of war. In the Spring of 1992, CGSC received a briefing on anti-drug operations in a major Army area of operations. A senior Army officer showed how the anti-drug war in this area is a military operation. He presented the anti-drug effort using the concepts of operational design (center of gravity, lines of operation, decisive points and culminating points). The principles of war were also shown as valid concepts to this operation.²⁷ This presentation demonstrated how Army concepts are expansible to operations other than war.

In September, 1992 General (Retired) Maxwell Thurman, former commander of SOUTHCOM, made the generalization "that the principles used in Panama during OPERATION JUST CAUSE are the same as those used to provide support to the disaster effort in Florida."²⁸ Major Dave Stahl, a 1992 SAMS graduate, and current division plans officer at the 10th Mountain division, gave an overview of his participation in the disaster relief operations in Florida after Hurricane Andrew. He said, "we set it up just like a military operation. The same processes and principles apply."²⁹

The formal assessment of Army involvement in

Hurricanes Andrew and Iniki in Hawaii is not complete. Comments in the initial impressions report show correlations to the principles of war. The use of an established headquarters for command and control, coordination and liaison with federal agencies and adapting campaign planning to disaster relief apply to the principle of unity of command. Using military police units for security operations applies to the principle of security. Adapting the IPB process to a disaster relief situation aided decision makers in deciding where to economize or mass relief support.³⁰

Operation PROVIDE COMFORT in northern Iraq is another recent example of an Army operation other than war. COL Donald G. Goff and LTC Gordon W. Rudd both reported on Operation PROVIDE COMFORT. COL Goff participated in the operation and emphasized the building of the coalition command and control and integrating relief agencies to achieve unity of effort. Since the duration of the operation was unknown, massing or using economy of force of resources in certain regions was important. Establishing the security zone as a buffer in northern Iraq was another issue confronting the coalition.³¹ These examples merely illustrate possible connections to the principles of war. These trends deserve further study about how the Army thinks and applies the principles of war to operations other than

war.

These successful operations confirm Bellamy's statement that Army officers are good at solving large complex problems.³² Although he does not state why officers can do this, training officers to think can enable them to adapt to a variety of different missions. The principles of war provide a conceptual framework for thinking that apply to other than the traditional Army roles.

If the theorists studies automatically result in principles ..., and if truth spontaneously crystallizes into these forms, theory {and the principles} will not resist the natural tendency of the mind.³³

This quotation from Clausewitz is about thinking. Memorizing the principles is easy, applying them during tactical decision making is difficult. According to Clausewitz, "knowledge must be so absorbed into the mind that is almost ceases to exist in a separate, objective way. Michael Howard uses the terms "assimilated" and "inculcated" when referring to the principles of war as guides to think about war.³⁴ Both authors make the same point. Knowledge, in this case the principles war, can become concepts for thinking and guide judgement when applying the means to conduct war. Although the principles are constant, application changes because every tactical situation is different.

During this period of change, the principles of war

remain a historically consistent means to understand war. They are based on and part of theory and included in all levels of doctrine. Once they are part of the mind, they provide a guide to think about war, regardless of the situation. Understanding, not just knowing, the principles of war can guide thinking when making tactical decisions and selecting the ways from tactics, techniques and procedures in Army doctrine.

TACTICAL DECISION MAKING

Success in war is influenced by many factors that make studying successful tactical decision making difficult. Clausewitz recognized this in his writing on friction in war and also in his chapter "On Military Genius". He contends that success in war, more than other endeavors, is influenced by chance.³⁵ Controlling or quantifying chance makes empirical study of successful tactical decision making difficult. Observing experienced decision makers and the processes they use for tactical decision making is a method for studying the tactical decision making process. Evidence indicates that parts of the military problem solving process, contained in the estimate of the situation, are not functional and rarely used for tactical decision making. Moreover, the estimate is too formal and structured and can inhibit tactical decision making. Experience determines how tactical decisions are made.

War is taking any problem exactly as you take a problem of your own life, stripping it down to its essentials, determining for yourself what is important and what you can emphasize to the advantage of your side; what you can emphasize that will be to the disadvantage of the other; making a plan accordingly....³⁶

Planning is part of everyday life. Planning begins by setting goals and objectives, determining courses of action to achieve those goals and then allocating the resources to achieve those goals.³⁷ Before battle, tactical leaders use the same process to make tactical decisions. These tactical decisions set the conditions of the fight. Sound decisions during tactical planning enables a commander to concentrate the effects of the ways and means at a chosen place.³⁸ This effect is called synchronization.

Certain processes are vital to achieve synchronization at the tactical level. When commanders and staffs understand these processes, they can focus on what they hope to accomplish, not only on how to do it.³⁹ Processes like information gathering, analysis and decision making, and monitoring the results are important aspects of successful tactical decision making.⁴⁰ Each of these processes is a tool to use in achieving the desired effect at the right place and time.

The estimate of the situation is the decision making tool that is a distinguishing feature of military decision making.⁴¹ The five step process (mission

analysis, situation and courses of action, analysis of courses of action, comparison of courses of action and decision) has evolved in FM 101-5, Staff Organization and Operations.⁴² The steps of the estimate prescribe how to make tactical decisions, but the estimate process is just like a rational process used to solve any problem.

The estimate provides guidance and structures military decision making. However, recent studies on tactical decision making show the estimate constrains leaders when making tactical decisions.⁴³ Moreover, interviews and studies with experts indicate the estimate is rarely used at the tactical level.⁴⁴ These studies were conducted over four years by Gary A. Klein, the president of Klein Associates Inc., a research and development company. Klein studied experienced decision makers from the platoon through battalion level. These studies were conducted at military posts around the U.S. to include the National Training Center (NTC). Klein's studies and findings are incorporated into a draft study being conducted by the Army Research Institute (ARI). This ARI study attempts to discover how experts make tactical decisions to develop a theory of tactical decision making expertise.⁴⁵

The preliminary results of this ARI study show differences in how experts use the estimate to make tactical decisions. These differences can add insight

into teaching tactical decision making to junior officers in the Army.⁴⁶ To clarify terms in this chapter, experts are senior military officers that attained the rank of general. Novices are junior military officers at the senior captain and junior major level. These two groups were studied and interviewed to better understand the tactical decision making process and the estimate of the situation.

The first two steps of the estimate are mission and situation analysis. Specific information is gathered about the mission and tactical situation. At the tactical level this is METT-T (mission, enemy, terrain, troops and time). When analyzing the mission, novices focus on the constraints imposed in the higher headquarters' orders. Novices felt constrained by boundaries between units, restrictions on operations prior to attack times, and time restrictions on movement. They view these constraints as if bounded by them and were are reluctant to violate or question them.⁴⁷

Experts conduct mission analysis on a broader scale. They look at the plan from a wider perspective to identify the linkage to other key decision makers influenced by the plan. Experts look at the friendly units on their flanks. They appear to have a broader vision about how their part of the plan relates to the whole plan.⁴⁸ They look at the larger picture and

consider changing boundaries and other constraints imposed by the higher headquarters.⁴⁹ Moreover, they see the potential in the plan for options to react to different situations at, and above, the level they are planning.⁵⁰ There is not a precise explanation for this difference, but experience at higher levels of command is a plausible explanation. Moving boundaries and permitting certain operations prior to stated times might be minor issues to experts.

When analyzing the enemy, novices again demonstrate a narrow perspective emphasizing low level analysis. As doctrine states in the estimate, novices look immediately for the details in the situation.⁵¹ When analyzing the enemy, novices look at the enemy equipment in great depth. They get preoccupied with the scientific aspects of the enemy's technology. Novices appear to put a premium on the quantifiable and scientific aspects of the situation.⁵² This tendency is the way officers are taught to solve problems using the estimate. One must obtain all the information first, before doing anything else. However, all the facts may not be available or needed at this point in tactical decision making.

Experts analyze the enemy from the general to the specific. They do not seek specific information about the enemy equipment or capabilities. Experts focus at a higher level. They concentrate on the enemy intent and

the mind of the enemy commander.⁵³ Neither ST 100-9 or FM 101-5 address knowing the enemy intent during the estimate, both end with understanding the most likely enemy course of action.⁵⁴ Like mission analysis, experts again demonstrate a broader outlook with out getting caught up in specific details.

Additionally, experts criticize how doctrine and Army schools teach the Intelligence Preparation of the Battlefield (IPB). IPB is an intelligence process that analyzes the enemy and terrain. Experts view IPB as a command process that includes the commander, not just the intelligence staff. Experts feel IPB applies to more than just intelligence, it is important to all the staff. Commander and staff involvement in IPB allows the complete staff to gain an appreciation of the terrain, enemy intent and understand the decision making cycle of the opposing commander.⁵⁵ IPB provides a picture that merges the enemy and terrain. Experts use this picture to create a vision of the enemy intent.

After gathering information about the mission and situation, the next step of the estimate is to develop courses of action. ST 100-9 describes the process of arraying friendly forces two levels down to begin the process to develop courses of action. Forces are then grouped, and this forms the framework of the course of action.⁵⁶

Research by Klein and ARJ show experts generate a broad course of action during step one of the estimate.⁵⁷ They merge the first two steps of the estimate. Experts use situations from their past experience to develop a broad course of action. Klein calls this recognitional decision making. Recognitional decision making allows experts to retrieve a model from their experience that becomes the base for the course of action.⁵⁸ Since no two tactical situations are alike, this model will not exactly match the present situation. However, it sets a broad framework for the course of action.⁵⁹ Experienced decision makers do not seek the best option, they want a solution that will work. This is called "satisficing".⁶⁰ This method of developing a course of action permits rapid decision making, but broad experience makes it possible.

This model becomes the skeleton of the plan. Experts then use reasoning to develop the plan. This includes a brief mental wargame to check the course of action for feasibility and mission accomplishment. This brief wargame uses thought to mentally visualize the fight. Creating one, instead of multiple courses of action supports research that experts use option exploration rather than option generation to make tactical decisions.⁶¹ Experts take one option and work with it instead of creating many options and then

choosing the best one.

Once the model is chosen and mentally wargamed, experts go back and seek information from the situation to add detail to the course of action. However, the information they seek is not as detailed as that originally sought by novices during step one. In effect, experts choose the course of action rapidly and get on with the planning process.⁶²

Creating multiple courses of actions can complicate tactical decision making. Step three of the estimate requires creating multiple courses of action. ST 100-9 states each course of action must be significantly different in the use of reserves, task organization, main effort and scheme of maneuver.⁶³ However, research conducted at the Naval Post Graduate School in 1988 does not support generating multiple courses of action as effective. Studies by Klein also show that creating multiple courses of action can be counter productive.⁶⁴ Interviews with experts revealed that they rarely consider more than one course of action.⁶⁵ Creating multiple courses of action increases uncertainty by forcing tactical decision makers and staffs to look at significantly different options. Additionally, it increases the amount of staff work and planning time.

Experiments cited in the ARI study indicate there is little difference in the performance of groups that create one course of action versus multiple courses of action. Those groups creating a single course of action came up with more flexible options than groups planning multiple courses of action. "Hedging" is the process that injects flexibility into courses of action. Forces are positioned to respond to a variety of different situations.⁶⁶ When allowed only one option, groups become more conscious of the requirement for flexibility and built it into their course of action.

After developing courses of action, they are analyzed. Although experts create only one course of action, they use wargaming to analyze courses of action as described in ST 100-9. The goal of wargaming is to identify the possible requirements to react based on a dynamic enemy.⁶⁷ Experts use 'what if' questioning to fill the gaps in their course of action to ensure it is flexible to meet a reactive enemy. However, during wargaming experts sought information to disprove their course of action. Novices sought information during wargaming to confirm their selected course of action.⁶⁸ Experts are more critical and objective in their analysis of their course of action. Focusing on a single course possibly forces more objectivity. Experts use wargaming to analyze the course of action but also to build the

plan from the single course of action they selected.

The estimate of the situation is a analytical method of making tactical decisions institutionalized in the Army. It is not the only method available to make decisions. Experts use a recognitional problem solving process to make tactical decisions. They do not follow the steps of the estimate, but find the essentials of the situation quickly. Experts merge the steps of the estimate to rapidly develop a course of action. Using recognitional decision making, experts use their experience to develop one broad course of action. Wargaming is used to analyze courses of action, but is also used to build the plan from a single course of action. Experience allows experts to use recognitional decision making to make tactical decisions.

BUILDING EXPERIENCE AND MENTAL AGILITY

Building a broad realistic experience base during peace can aid tactical decision makers in war. Army education is an opportunity to build an experience base for tactical decision makers. Integrating history with tactics instruction ties history to doctrine and builds experience. Additionally, the use of simulations to emphasize execution of tactical plans builds experience and teaches mental agility. Army education should use both methods to develop a broad realistic experience base for future tactical decision makers.

Direct exposure to war teaches practical experience. In his book Strategy, B.H. Liddell Hart discusses two types of experience, direct and indirect.⁶⁹ Both types of experience are relevant for educating officers. Direct experience implies that war is the best teacher of war.⁷⁰ Clausewitz recognized the value of direct experience to enhance judgement and teach what is and is not possible.⁷¹ More recently, Cohen and Gooch also state "in war there is nothing like the hard school of experience."⁷²

Although direct experience is important, it is not available to all officers and has some limitations. Michael Howard regards service in the Army as unique since officers may or may not get a chance to exercise their profession in war.⁷³ Liddell Hart, however, thought direct experience was too limited. He believed that direct experience is too limited for application and establishing a base for military thought. Since direct experience is often limited, it can narrow thinking if not tempered by broader experience.⁷⁴

Just as limited exposure to direct experience in war affects individuals, it also affects the Army. In Winning the Next War, Stephen Rosen concurs with Cohen and Gooch that the ability to get timely feedback for innovation is more difficult in short wars. Additionally, short wars compound the problem of

determining the relevancy of direct experience after the war.⁷⁵ Short wars do not permit the time to completely assess the impact of war on military thought. Army involvement in Grenada, Panama and Saudi Arabia illustrate the short-term nature of future Army wars. If these trends continue, direct experience will be more limited in the future. This increases the importance of history for educating officers.

The proper study of history is valuable to building a broad experience base for officers. Although both types of experience are relevant, Liddell Hart believed indirect experience from studying military history is of greater value to military officers. "Fools say that they learn by experience. I prefer to profit by others' experience."⁷⁶ This quotation from Liddell Hart reflects the notion that history is broader and wider in scope and has greater variety for educating officers. Clausewitz also saw the value of history for educating officers. He preferred a broad survey of history for military students to develop their outlook and judgement.⁷⁷ Broad and detailed study of history are important and both have use to educate officers.

Since there is a lot of history to study and time is limited for both officers and military schools, using history to build experience requires focus. Liddell Hart cautions that experience must be carefully gathered, and

there must be a method for studying history.⁷⁸ Clausewitz method to study war was called Kritik. It stresses what happened, but also what might have happened.⁷⁹ Cohen and Gooch discuss three varieties of military history that can serve as methods to study and use history to build experience. They are history in support of principles, applicatory history, and history as a monument. The first two have utility for teaching tactics.⁸⁰

The principles of war provide a method for studying history. In On Strategy, Harry Summers analyzed the Vietnam War and demonstrated how to use the principles of war to study and evaluate history.⁸¹ John Alger, author of A Quest for Victory, discusses the same use of the principles during his education at West Point. The principles of war were used to evaluate military operations from the Greeks to the present.⁸² The principles serve as a framework to study history and build a broad experience base in memory to aide in making tactical decisions.

Although war is not a precise science like other disciplines, the principles of war can serve as hooks which aide in remembering historical lessons. Michael Mc Carthy, a contemporary expert on memory, contends that information is stored in memory based on similarities or relationships between events or actions. To remember

information, the brain must have "hooks" that allow the mind to remember events based on their similarities between other events already in memory. The laws of Physics and the rules of grammar are examples of hooks Mc Carthy used to help structure the mind. These hooks permit forming associations between information which enhances remembering new information.⁸³ Once assimilated, the principles of war provide a conceptual base to show the relationship between events in history.

Using historical examples to teach the principles of war helps to ingrain them in students memory. Although Cohen and Gooch and Michael Howard disagree with the selective use of history out of context to support principles, this method of teaching concepts like the principles can aid in understanding.⁸⁴ The intent of this method is to use many different pictures e.g. battles, from history as visual stimuli to teach the principles of war. This type of instruction supports learning research by the "associationists" in the eighteenth century pioneered by psychologist Jean Piaget.⁸⁵ The associationists demonstrated that conceptual learning occurs through experience, the broader the better.

The Infantry Officers Advanced Course (IOAC) uses this technique to teach the principles of war. IOAC makes extensive use of brief historical examples to teach

and reinforce the principles of war. Brief examples from Rommels' Attacks and Infantry in Battle are put on visual slides to create a training aides during tactics instruction. A brief discussion of the action occurs and the principles of war are reviewed during these historical vignettes. Different historical vignettes are used throughout the course to reinforce the principles of war.⁸⁶ This technique reinforces the principles and simultaneously builds indirect experience by exposing students to different tactical battles from different periods in history. This method abuses history by Howard's standards because it takes history out of context and does not cover each battle in great depth. However, this method is supported by psychology. Regardless of which discipline is correct, the intent is to teach the principles through integrating history into tactical instruction to demonstrate the relationship between doctrinal concepts and history.

Using historical examples as situations to generate discussions about how to fight also ties history to doctrine. Using history in this way to build experience is called applicatory history. However, this method of using history to teach tactics lost favor in the 20th century. Applicatory history focuses on the role of the commander. While studying battles, the commanders' decisions and the cause and effect relationships are

discussed.⁸⁷ This process is similar to wargaming where the action reaction cycle of the friendly and enemy is considered when conducting a battle. The civilian sector uses similar programs that combine short case studies and the teaching of abstract principles to build experience.⁸⁸ Kodak Corporation and Federal Express Corporation use this type of training to teach the principles of selling to new sales representatives. New sales representatives are given a short situation from past corporation sales experiences. They then discuss a sales strategy in conjunction with the concepts of effective salesmanship.⁸⁹ This type of training is enhanced by including an explanation of the principles underlying the possible solutions.⁹⁰

Integrating historical examples into tactics instruction supports preliminary research findings by ARI that teaching by historical examples is an effective way to build experience. Experts use both of these methods by telling war stories to explain their solutions to tactical situations.⁹¹ Moreover, these methods permit forming associations by showing relationships between tactical situations from history while also building experience.

BUILDING MENTAL AGILITY AND EXPERIENCE THROUGH

EXECUTION OF TACTICAL PLANS

Tactical leaders need training to instinctively make

decisions in tactical situations that require immediate action. This type of thinking is achieved when missions require quick decisions.⁹² Training and education should confront tactical leaders with many different type situations, and with practice they will become automatic.⁹³ The ability to contend with this type situation is called mental agility. In his article "Delivering Decisive Victory" General Sullivan, discusses mental agility. He believes it is an acquired skill, an art, that takes years of experience and practice to acquire and perfect. He claims agility is only possible after the basics of war are mastered. The basics include the estimate and orders process which permit commanders to improvise.⁹⁴

After we have thought out everything carefully in advance and have sought and found without prejudice the most plausible plan, we must not be ready to abandon it at the slightest provocation...on the contrary, we must be prepared to submit the reports that reach us to careful criticism, we must compare them with each other, and send out for more. In this way false reports are very often disproved immediately, and the first reports confirmed. In both cases we gain certainty and can make our decision accordingly.⁹⁵

Tactical leaders must deal with uncertainty. During war the battlefield is obscure. Friendly actions, the enemies and false information contribute to the fog and friction of war described by Clausewitz.⁹⁶ Preliminary results of the ARI study show a difference between experts and novices ability to contend with uncertainty.

When faced with a crisis situation requiring mental agility, experts reacted and kept perspective through their long-range vision and understanding the whole plan. Novices tended to drop the mission or continue without modifying the plan.⁹⁷ Repeated exposure to uncertainty during education can build experience and help develop mental agility.

The key is that we develop in ourselves and our subordinates the ability in the face of uncertainty to recognize acceptable risks and take them. We can do this by rewarding initiative and innovation in our schools.⁹⁸

Executing tactical plans during tactical instruction builds experience and requires students to practice mental agility. In his recent article, "Training Operational Experts for War", LTC Richard Geirer states, "...today tactical operational experts are relatively rare." LTC Geirer contends that building experience through execution is essential to developing tactical experts.⁹⁹

Planning is only part of tactical decision making, executing the plan is also important. In a sterile school environment, Jomini says it is easy to create a tactical plan that exploits a stationary given enemy. However, when opposed by a skillful resourceful enemy whose movements are unknown, the plan may not be so easy to execute.¹⁰⁰ LTC Geier believes the Army education system should spend less time planning battles in the

classroom, and more time executing them. He does not question if CGSC students know military theory, but questions their ability to apply that theory. He goes on to criticize CGSC for the lack of execution in the tactics program of instruction.¹⁰¹

Major Hilton Dunn, co-creator of the wargame Dunn Kempf, agrees with LTC Geier regarding the importance of execution to build experience and mental agility. Major Dunn says that training for the battalion and brigade staffs should include techniques that require playing the plan to the end, not stopping with preparation of staff briefings or plans.¹⁰² In September 1992, COL Patrick Lamar, the commander of the OPFOR at NTC, stated, "execution of the plan, not the plan itself, is the biggest problem with units rotating through the NTC. COL Lamar commented that a simple flexible plan properly executed caused problems for the OPFOR.¹⁰³ Tactical instruction should train students to rapidly create simple flexible plans and execute these plans using realistic methods to build mental agility and experience.

Realism is important in all Army training and education. Detailed realistic experiences are better remembered than less realistic ones.¹⁰⁴ Clausewitz saw the need for educational experiences to include elements of friction to train officers' judgement and common sense.¹⁰⁵ Even Napoleon studied tactics with the aide

of simulations. Tin soldiers and blocks of wood used on a map served teaching aides.¹⁰⁶ Today, simulations are a means to execute tactical plans. Realistic experiences like the Battle Command Training Program (BCTP) build experience and implant those experiences in memory.¹⁰⁷

Major Dunn, author of "Terrain Boards as Tactical Instructional Aides", describes a series of terrain board exercises used at CGSC to plan and execute tactical operations. At the end of the exercises, the principles of war were discussed regarding planning and execution. These exercises allowed students execute their plans which showed the strengths and weaknesses of the planning process, and permitted discussion as to why events occurred the way they did. The friction and fog of war are built into the exercises to build mental agility during decision making.¹⁰⁸ Results from Army simulations indicate that repeating exercises on simulations benefits players. They begin to appreciate the dynamics of the tactics, the processes used in tactical decision making, mental agility and overcoming the friction of war.¹⁰⁹

Some methods of executing plans require minimal time and cost and achieve the same effect as simulations. In the early 1970's, the Naval War College used a low cost method to execute student plans and teach mental agility. Students divided into small groups of five or six and are

issued a short scenario. The faculty member role plays the enemy and serves as the evaluator. Students make a decision in response to the scenario. The evaluator devises a reaction to the students initial response forcing students to make another decision. This process is repeated as required by the instructor until the training objectives are met.¹¹⁰ This method of executing plans emphasizes the action and reaction cycle like wargaming and injects some realism from a simulated reactive enemy. This type of 'what if' simulation also resembles how experts conduct wargaming during tactical decision making.

Building experience during military education is possible by using history and simulations integrated into tactical instruction. Both direct and indirect experience build a data base for students to make generalizations. COL Hubba Wass de Czege, author of "Understanding and Developing Combat Power", comments, the larger the experience base, the easier it is to remember new information put into memory.¹¹¹ Using the principles of war, history, and simulations during tactical instruction are ways to build broad experience and mental agility. Broad experience can aid tactical decision makers assess novel situations by recognizing similarities between their accrued experience.

ASSESSMENT OF COMMAND AND GENERAL STAFF COLLEGE
CORE TACTICS PROGRAM OF INSTRUCTION

This assessment evaluates whether the CGSC core tactics POI teaches what is important for tactical decision making. To assess the POI use of the principles of war, tactical decision making, and building mental agility and experience are used as the framework of the analysis. The subject matter of the assessment is the core POI which includes two courses, the Fundamentals of Combat Operations (C310) and Corps and Division Combat Operations (C320). The data for this assessment is derived from the following sources: interviews with faculty and staff of the Center for Army Tactics (CTAC), including course authors, and a review of the student issue material from the POI.¹¹²

Before discussing the assessment, two aspects of the teaching environment at CGSC require mentioning. The diverse CGSC class composition forces CTAC to teach to the average student.¹¹³ Second, each instructor in CTAC is different, and each has his own opinion and methods of teaching tactics. This assessment includes only the trends discovered during interviews with the CTAC faculty and staff.

PRINCIPLES OF WAR

The principles of war are the foundation of Army doctrine. Derived from and validated by history, they

are timeless concepts for studying the art of war. Additionally, they are conceptual guides for tactical decision making during war. If assimilated, the principles can be applied to the diverse situations confronting future tactical decision makers.

The doctrinal and conceptual value of the principles of war is recognized by the CTAC faculty and staff. LTC Thomas Schmidt, the director of CTAC, views the principles of war as a way of thinking about war and as a method of teaching about war.¹¹⁴ The POI assumes students have exposure to the principles of war from prior military education. However, instructors predict that only between 30% to 40% of the students can recall the principles of war. Moreover, they believe that only between 10% to 15% can apply the principles as concepts when thinking about making tactical decisions. This small percentage who have assimilated the principles of war are predominately from the Infantry and Armor branches.¹¹⁵

Although the principles of war are valuable concepts, the POI devotes little time to teaching them and does not integrate them throughout the POI. LTC Schmidt and CTAC instructors recognize this. The principles of war are briefly taught to CGSC students during lesson one of C310. Three hours are dedicated to discussing the role of doctrine in the Army and the key

features of AirLand Battle doctrine. The principles of war are discussed during this block of instruction along with other doctrinal concepts from FM 100-5.¹¹⁶

Assessment indicates the principles of war are not assimilated by CGSC students. Despite the assumption of the POI, lack of time, students lack of experience and knowledge about the art of war, and other priorities established by the CTAC faculty mitigate against altering the POI to devote more time to ensure understanding of concepts like the principles of war. Instead the POI continues to emphasize the different levels of Army organizations, the doctrine at each level, and exercises that use planning scenarios to reinforce the doctrine and understanding of the organizations.¹¹⁷

TACTICAL DECISION MAKING

The estimate of the situation is an analytical decision making process not suited for all types of military decision making. It is a formal and structured process that requires following each step to arrive at a decision. However, evidence cited in chapter two indicates all the steps are not important, and they are rarely used at the tactical level. Yet, analytical decision making remains the Army's accepted process for making decisions.

Instructors state that while students do not know how to use the estimate, they do recognize it as a

problem solving process. Ironically, 859 of the 986 active Army CGSC students attended the Combined Arms and Services Staff School (CAS3), where they were taught the estimate from ST 100-9.¹¹⁸ The POI assumes the worst case about students' ability to apply the estimate. Therefore, students are taught and deliberately walked through the steps of the estimate, especially wargaming, to thoroughly familiarize them with the process.¹¹⁹

The estimate is the only decision making process taught during the POI. The estimate is taught during lesson seven of C310. This sixteen hour lesson is taught over four days using a brigade defensive scenario and practical exercises to guide the students through the steps of the estimate. This prepares students for lesson eight, the last lesson in C310.¹²⁰

Lesson eight is allocated the same amount of time as lesson seven and also uses a brigade defensive scenario. The difference is that students function as staff groups during planning. During the estimate, staff groups present two different courses of action and subsequently prepare certain portions of an operations order for evaluation by instructors.¹²¹

After completing C310, students receive instruction at corps and division level during C320. The methods of instruction remain the same from lesson eight of C310. The doctrine is read and reviewed and then students use

the estimate to plan scenarios for division, corps, and corps contingency operations. Students present staff products to instructors for assessment at the conclusion of each planning exercise before moving to the next level.¹²²

The POI does not teach students to think about the future challenges the Army faces. Although the POI teaches the estimate, its only focuses on planning combat operations. CTAC instructors feel repeated exposure to the process will enable students to adapt the process to other situations. However, instructors believe teaching it deliberately and repeating the process is the best method for students to learn the estimate.¹²³

BUILDING EXPERIENCE AND MENTAL AGILITY

CGSC is an opportunity for the Army to build and focus the experience gained by the future leaders of the Army. Army officers cannot regularly practice their profession in war. Therefore, any direct and indirect experience will add to officers' ability to adapt to changing situations in the future. History tied to doctrine and execution of plans are method that will realistically broaden experience. The larger the experience base, the easier it will be for officers to assimilate new experiences and use that experience in other situations.

The POI's only contribution to building experience

is exposing students to different planning scenarios. This contribution is expanding. The POI has expanded the number of planning scenarios from three to five since last year. Students are exposed to brigade, division and corps planning exercises that build an experience base for students.

History is the foundation of Army doctrine. Yet, there is only one historical example in the tactics POI. This example is from the VII Corps operations in Saudi Arabia and is used during lesson one of C310. Instructors do use their individual experience to integrate history, but there is not standardized historical examples as part of the POI.

Additionally, the POI does not emphasize execution of tactical plans to build experiences and mental agility. However, during AY 92-93 approximately 60 students will participate in simulations due to unpredicted schedule openings. The end of the year capstone exercise, PRAIRIE WARRIOR, executes a corps operation that emphasizes execution for about one third of the CGSC students. The remaining students learn from the exercise but are not directly involved in decision making during execution.¹²⁴

The examinations during the POI do force students to abbreviate the estimate, demonstrate conceptual knowledge of doctrine, and apply mental agility. Examinations

require students to choose from provided courses of action or develop their own. Conceptual and doctrinal justification is also required which forces students to think. These examinations require students to think, apply conceptual understanding of doctrine and demonstrate mental agility.¹²⁵

The POI does not use history or execution to build a broad experience base for students. The priority is exposing students to different organizations and the doctrine at each level. Experience is gained through applying the organizations and doctrine in planning exercises. These priorities consume the time allocated to the tactics POI.

CONCLUSION

THE PRINCIPLES OF WAR

The "PRINCIPLES OF WAR" intriguing guides for military leaders and theoreticians that I had never heard of until after I had fought in my first two wars, are now a staple in the Army officers education system....A knowledge of the...principles of war can only add breadth and depth to the understanding that tomorrow's military captains must have to employ military power successfully.¹²⁶

This quotation by General Frederick J. Kroesen, Commander-in-chief, United States Army Europe, states that knowledge of the principles of war is important and implies that they are assimilated by the officers in the Army education system. Joint and Army doctrine are founded on them. The principles of war derived from

history by theory, remain as a foundation for Army doctrine. The draft of FM 100-5 includes them in the chapter on the Fundamentals of Army Operations. As concepts, they are a tool to aid tactical decision makers to think about solving the diverse future challenges for the Army. The conclusion from the assessment of the core tactics POI is that it does not ensure students understand the principles of war. Students do not know the principles of war, nor does the POI use or encourage use of the principles of war as concepts to aid in tactical decision making.

TACTICAL DECISION MAKING

Evidence shows that certain steps of the estimate are neither functional, nor used in tactical decision making. Although the estimate of the situation is a viable analytical decision making process, it is not the only process available for tactical decision making. This is especially true about the doctrinal requirements to develop multiple courses of action that are significantly different. CGSC and the Army needs to explore other alternatives to the estimate like recognitional decision making. Beginning with a single broad flexible course of action, and then using wargaming to mold and develop the final plan appears to be a possible alternative to the estimate. This method emphasizes wargaming, a consistent weakness for CGSC

students, and closely resembles how experts appear to make tactical decisions.

BUILDING EXPERIENCE AND MENTAL AGILITY

Although history is taught by a different department in CGSC, including history and executing tactical plans will enhance the POI and broaden students experience. The POI does not use history or execution as aids to build experience or develop mental agility. CGSC provides an opportunity to build and focus the experience base for the Army. The tactics POI builds experience by only exposing students to different levels of planning.

The POI should include historical examples. These examples do not need to be long case studies, but can be short visual aids that show a picture of a doctrinal concept or another solution to a tactical problem. This reinforces the relationship of history and doctrine while building experience. Moreover, it also reinforces the concepts required for thinking about applying doctrine in different situations.

The CGSC core tactics POI prepares staff officers for the Army, but it does not create officers who can think rapidly and apply concepts to make tactical decisions. The POI only has time to expose students to different levels of organizations, the doctrine for each level, and planning scenarios for each level. This prepares CGSC students to be staff officers. However,

this focus on organizations and tactics techniques and procedures at different levels, does not develop officers who know how to think.

Teaching concepts like the principles of war, and a realistic decision making process, can enable students to adapt when applying doctrinal concepts to solve the future challenges for the Army. The Army's new keystone doctrine now focuses on how to think about the diverse missions and challenges facing the Army. Although time is limited, the POI can not teach every possible mission the Army may execute, but exposure to these missions will build experience. The POI covers only part of the future challenges for the Army. The CGSC core tactics POI needs to adjust to the future also.

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